

AMENDMENTS TO THE SPECIFICATION

In the Specification:

Please replace the paragraph beginning on page 8, line 1, with the following amended paragraph:

A delay parameter controls the onset of the zoom. If the delay is set to zero and magnification is tied to a mouse hover event, as the cursor moves over each search result, a wave, with the result focused at the crest, appears to follow the direction of the mouse. Thus, the wave lens technique derives its name from this effect. In addition to being able to control the number of results visible without scrolling using a fisheye lens, the wave lens technique addresses the need for more description text by managing the progressive insertion of additional content based on mouse activity. Just as zooming can be initiated by a mouse hover or click event, so can the onset of content insertion. As such, it is incumbent upon the designer *[[or]]* to decide how best to couple content insertion with the gradual zooming of a focused result. This can be achieved by assigning parameters such as words per second and zoom speed or smoothness wherein a layout component adjusts the display based upon the parameters. Similar to zooming, content insertion can be adjusted according to the rate of insertion, as well as the size of the chunks (*i.e.*, whether the increments should be in words or phrases). A delay parameter directs the onset of the insertion.

Please replace the paragraph beginning on page 9, line 7, with the following amended paragraph:

Figs. 3-5 are example result pages having differing results and display criteria. Fig. 3 displays what is described below as a Normal view 300, whereas Fig. 4 displays an Instant view 400 and Fig. 5 displays a Dynamic view ~~[[600]]~~ 500. To assess the usability of the wave lens technique described above, a controlled experiment was conducted in which participants engaged in a search task using a list of Internet search results. All questions had answers that could be found in one search result on the list. The location of the answer was controlled with two binary variables: *Require Scrolling*, indicating whether or not the target result containing the answer required scrolling to be found, and *Answer Location*, indicating whether or not the answer was readily available in the usual description text or required examining additional content invoked by mouse action.

Please replace the paragraph beginning on page 11, line 20, with the following amended paragraph:

Fig. 6 illustrates a graph 600 that shows mean search completion times for the three views. Participants completed search tasks in an average of 69.6 secs, 75.8 secs, and 92.0 secs for the Instant, Dynamic and Normal conditions, respectively. Both Wave Lens conditions were faster than the Normal condition in spite of the fact that participants were familiar with the Normal view. Post hoc multiple comparisons using a Tukey test revealed a significant difference between the Normal and Instant views ($p < .05$). The difference between the means of the Normal and Instant condition is 22.4 seconds, which represents a roughly 25% advantage.

Please replace the paragraph beginning on page 11, line 28, with the following amended paragraph:

Even though all web pages and additional summary content were cached locally, load times differed slightly across conditions. In the case of the Normal view, graphics such as images take longer to load than text. In the case of the Dynamic view, additional ~~content~~ content was not shown for 1.5 seconds after hover and then it was shown progressively, both of which require additional time. Average Normal view downloads were less than 2 seconds and full expansion took less than 3 seconds in the Dynamic view. Since the mean number of clicked items in the Normal view was 2.2, load time differences are not enough to account for the 22.4 difference between Normal and Instant views. Load time differences could, however, account for the lack of a significant effect between the Dynamic and the Instant views, given the parameter settings used for the experiment.

Please replace the paragraph beginning on page 12, line 9, with the following amended paragraph:

Fig. 7 illustrates a graph 700 that shows mean search completion time for Require Scrolling, and Fig. 8 illustrates a graph 800 that shows the same for Answer Location. The difference between means is 14.6 and 25.8 secs respectively. While the main effect for Answer Location is not surprising, the main effect for Require Scrolling is somewhat unexpected given the low cost and quickness of scrolling.

Please replace the paragraph beginning on page 13, line 2, with the following amended paragraph:

With respect to graph 600 of Fig. 6 previously discussed, the Instant view outperformed the others on both quantitative and qualitative measures. Since the parameters for the Instant view were set to tease apart the benefit of providing additional page content from interaction style, it would seem that participants prefer to have all the content on demand rather than to try to fit more results in the window frame and progressively reveal additional content. However, it is noted that the Dynamic view represents just one point in the parameter space, and other parameter settings can be adjusted for dynamic information presentation. For example, in one experiment, content was progressively deleted when the mouse was placed outside the focus region, which prompted several participants to comment that this was unexpected; it might be easier to delete text only when new text is inserted. Furthermore, spaces between search results where users can rest their mouse without initiating animated zoom can be highlighted, if desired.

Please replace the paragraph beginning on page 13, line 15, with the following amended paragraph:

It is noted that the Instant view also required training to get used to, as revealed in a main effect for order of presentation ($F_{7,292}=2.52, p<.05$). Fig. 9 displays a graph 900 that is a plot of the mean search completion time as participants received more search tasks in the Instant view, which shows a downward trend towards faster completion time. No item effect was observed, and questions were randomly generated. One possible explanation for this trend is that participants learned to be more selective about which search results to expand for additional content since oftentimes, the extracted text was lengthy. This learning apparently did not occur for the Dynamic view.